

### Remarks

Claims 1-19 were pending. Claims 18 and 19 have been canceled without prejudice or disclaimer. Claims 1 and 12 have been amended. Claims 20 - 22 have been added. Support for the amendments and new claims can be found in the specification, *inter alia*, at page 2, lines 28-30, page 6, lines 12-14, and page 7, lines 4-10. Accordingly, claims 1-17 and 20-22 are now pending.

In view of the foregoing amendments and the arguments below, Applicants respectfully request reconsideration of all outstanding rejections and passage of the pending claims to allowance.

### § 103 Rejections

Claims 1-19 were rejected under 35 USC § 103(a) as being unpatentable over so-called Applicant's admitted art (APA') in view of Leyva et al. (US 6,327,405). However, page 2 of the office action also mentions a previously non-cited reference "Kuhne." If there is another reference that has not yet been identified, Applicants respectfully request that the Examiner provide a proper citation for this reference. As best that can be understood, and assuming that the reference to "Kuhne" is a typographical error, Applicants respectfully traverse for the following reasons.

A *prima facie* case of obviousness has not been established by the patent office because the office action does not provide sufficient evidence that one of ordinary skill in the art at the time of the invention would have been motivated to combine the conventional apparatus shown in Fig. 2A of the present application with Leyva.

As described in the present application, thermal compensation for grating writing operations can be provided not only by the proper selection of the materials constituting the first and second members and the mount, but also in the selection of the distance of the fiber from the first plane. In contrast, the cited combination does not teach, suggest, mention, or even address this relationship.

For example, in the conventional apparatus described in Fig. 2A of the application, an optical fiber is bonded to a top surface of bar 32, which is mounted on bar 34. As stated in the specification, this conventional apparatus does not provide accurate temperature compensation

and is thus subject to tuning errors. This accuracy problem is not addressed by the Leyva reference. Leyva, on the other hand, teaches the use of an optical fiber supported by ferrules 30, 31, which are placed on pads 33, 34, which are supported on the ends of an INVAR base 36 (Leyva, col. 4, lines 1-18). In Leyva's device, the thermal compensating elements 33, 34 are steel. However, there is no teaching or suggestion either in the APA or Leyva, or even a hint of a need, to further support the INVAR "base" with or stack the "base" on a material of positive thermal expansion, as is recited in the claims. The recited structure provides for greater flexibility in compensating thermal variations, for example, allowing for one or more of the members to comprise, in some embodiments, a vertical stack of multiple layers of materials (see specification, page 6, lines 3-6).

Further, the patent office's purported motivation – "for the purpose of facilitating the mounting and retaining of fiber" – is not sufficient to support the combination of teachings since the conventional apparatus of Fig. 2A already provides for the retention of the fiber. In other words, the patent office has not provided sufficient evidence that one of ordinary skill in the art would have been motivated to place an extended mount on a stacked structure. Further, Leyva's teaching of a base 36 suggests the contrary – that no other layer of different thermal expansion coefficient would be necessary to be placed beneath base 36.

As is stated by the Federal Circuit, "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination." *Carella v. Starlight Archery and Pro Line Co.*, 231 USPQ 644, 647 (Fed. Cir. 1986). Further, even if, *arguendo*, the references could be combined, the "mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." *In re Fritch*, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992). The office action provides insufficient evidence of any desirability of the combination.

In addition, Leyva does not teach or suggest a second member "stacked on a substantial length of the first member" as is recited by independent claims 1 and 12.

For at least these reasons, Applicants respectfully submit that the structure of the invention recited in claims 1-11 and the method as recited in claims 12-16 is patentable over the references of record.

Regarding claim 17, the cited references do not teach or suggest the recited structure of “an enclosure ... and a temperature compensating washer on the second end of the enclosure, wherein the washer comprises a disk with an aperture, wherein the disk comprises a first layer adjacent the second end of the enclosure and a second layer on the first layer.” (emphasis added). These features are not even addressed in the office action and Applicants respectfully submit that claim 17 is patentable over the references of record.

Regarding new claims 20 and 21, the cited combination does not teach or suggest a mount that is adapted to “adjust the distance of the fiber from the first plane” (claim 20) or a mount that has a coefficient of thermal expansion “less than the coefficient of thermal expansion of the first member” (claim 21). Regarding new claim 22, the cited combination does not teach or suggest a coefficient of thermal expansion of about  $-9 \times 10^{-6}$  or less for the combination of the mount, the first member, and the second member.

Accordingly, for at least the reasons mentioned above, Applicants respectfully submit that the present application is patentable over the references of record and is now in condition for allowance.

**Conclusion**

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. Please contact the undersigned should there be any questions or in order to expedite prosecution.

Respectfully submitted,

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Date

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